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VARIATION IN BLOOD TRANSFUSION PRACTICES AT THE TIME OF ACUTE MYOCARDIAL INFARCTION: AN ANALYSIS OF CONSECUTIVE PATIENTS FROM 48 U.S. HOSPITALS

Poster Contributions

Poster Sessions, Expo North

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Background: Blood transfusion at the time of acute myocardial infarction (AMI) is common and controversial, with some prior studies reporting increased mortality among patients transfused at the time of AMI. However, few data describe the variability in transfusion practices across hospitals and little is known about the effect of case mix within hospitals on variability in transfusion rates.

Methods: We studied consecutive AMI patients from 57 US hospitals in the Cerner Health Facts database. The proportion of patients treated with at least 1 red blood cell transfusion during their hospital stay was calculated for each hospital. To ensure the most conservative estimates of transfusion rates were generated, hospitals reporting no transfusions and a >10% difference of observed transfusion rate of to expected transfusion rate were excluded. Among the remaining 48 hospitals, shrinkage estimates of the incidence of transfusion were then generated to account for low volume sites. Finally, multivariable models were used to identify the adjusted variation in transfusion rates across hospitals after adjusting for patient's demographic, disease severity, comorbidity and treatment characteristics, using median odds ratios (MOR), the median value of the odds ratio for risk of transfusion for two identical patients presenting to all possible pairs of Health Facts hospitals.

Results: Overall, 1175 of 24083 patients (7.4%) were transfused. The unadjusted (0% to 21.9%) and shrinkage-adjusted (3.2% to 14.5%) incidence of transfusion varied dramatically across hospitals. This variation remained robust after adjustment for patient characteristics (MOR for transfusion of 2.0 (95% CI 1.5-2.5).

Conclusions: We observed marked variation in the use of blood transfusion in this large sample of AMI patients from across the US. Even after adjusting for patient characteristics, a 2 fold difference in likelihood of transfusion persisted, suggesting transfusion practices vary between hospitals independent of case mix. Further studies are needed to understand the relationship between variability in transfusion practices and outcomes during AMI.